

§ 63.15-9

(d) For a periodically unattended machinery space, the auxiliary boiler trip alarm required by 46 CFR 62.35-50, Table 62.35-50 satisfies the requirements for the audible alarms specified in this section.

§ 63.15-9 Inspections and tests.

All automatic auxiliary boilers must be inspected and tested in accordance with the requirements of part 61 of this chapter.

Subpart 63.20—Additional Control System Requirements

§ 63.20-1 Specific control system requirements.

In addition to the requirements found in ANSI/ASME CSD-1/CSD-1a, the following requirements apply for specific control systems:

(a) *Primary safety control system.* Following emergency safety trip control operation, the air flow to the boiler must not automatically increase. For this condition, postpurge must be accomplished manually.

(b) *Combustion control system.* A low fire interlock must ensure low fire start when variable firing rates are used.

(c) *Water level controls and low water cutoff controls.* Water level controls must be constructed and located to minimize the effects of vessel roll and pitch. Float chamber low water cutoff controls using stuffing boxes to transmit the motion of the float from the chamber to the external switches are prohibited. No outlet connection other than pressure controls, water columns, drains, and steam gages may be installed on the float chamber or on the pipes connecting the float chamber to the boiler. The water inlet valve must not feed water into the boiler through the float chamber. The boiler feed piping must comply with the applicable requirements of § 56.50-30 of this chapter.

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Subpart 63.25—Requirements for Specific Types of Automatic Auxiliary Boilers

§ 63.25-1 Small automatic auxiliary boilers.

Small automatic auxiliary boilers, defined as having a heat input rating of 400,000 Btu/hr. and less (117 kilowatts and less) (3 gph and less), must meet the following additional requirements.

(a) Small automatic auxiliary boilers must be equipped with a visual indicator which indicates when the low water cutoff has activated.

(b) A prepurge period of a sufficient duration to ensure at least four changes of air in the combustion chamber and stack, but not less than 15 seconds must be provided. Ignition must occur only before or simultaneously with the opening of the fuel oil valve.

§ 63.25-3 Electric hot water supply boilers.

(a) Electric hot water supply boilers which have a capacity not greater than 454 liters (120 U.S. gallons), a heat input rate not greater than 200,000 Btu/hr. (58.6 kilowatts), meet the requirements of ANSI/UL 174 or ANSI/UL 1453, and are protected by the relief device(s) required in § 53.05-2 of this chapter do not have to meet any other requirements of this section except the periodic testing required by paragraph (j) of this section. Electric hot water supply boilers which meet the requirements of UL 174 may have temperature-pressure relief valves that meet the requirements of ANSI/AGA Z21.22 in lieu of subpart 53.05 of this chapter.

(b) Each hot water supply boiler must be constructed in accordance with the applicable requirements of part 52 or part 53 of this chapter.

(c) Branch circuit conductors for hot water supply boilers which have a capacity not greater than 454 liters (120 U.S. gallons) must have a current carrying capacity of not less than 125 percent of the current rating of the appliance. Branch circuit conductors for hot water supply boilers with capacities of more than 454 liters (120 U.S. gallons) must have a current carrying capacity of not less than 100 percent of the current rating of the appliance. Wiring materials and methods must comply

with part 111, subpart 111.60 of this chapter. A hot water supply boiler having a current rating of more than 48 amperes and employing resistance type heating elements must have the heating elements on subdivided circuits. Each subdivided load, except for an electric hot water supply boiler employing a resistance type immersion electric heating element, must not exceed 48 amperes, and it must be protected at not more than 60 amperes. An electric hot water supply boiler employing a resistance type immersion electric heating element may be subdivided into circuits not exceeding 120 amperes and protected at not more than 150 amperes. Overcurrent protection devices must comply with part 111, subpart 111.50 of this chapter.

(d) Heating elements must be insulated electrically from the water being heated, guarded against mechanical injury and contact with outside objects, and securely supported. Consideration must be given to sagging, opening, and other adverse conditions of the elements resulting from continuous heating, and flexion of supports and wiring due to alternate heating and cooling. Wrap-around elements must be secured in a manner which prevents loosening.

(e) Iron and steel parts must be protected against corrosion by enameling, galvanizing, or plating. Iron and steel storage tanks having a wall thickness less than 6.4mm (¼-inch) must have the inside surface protected against corrosion.

(f) Each heating element must have a temperature regulating device. The device must limit the water from obtaining a temperature greater than 90 °C (194 °F). If the control has a marked off position, the control must disconnect the heating element from all ungrounded conductors, and it must not respond to temperature when placed in the off position.

(g) An independent temperature limiting device must prevent the water in the upper 25 percent of the tank from attaining a temperature higher than 99 °C (210 °F). This device must require manual resetting, be trip free from the operating means, open all ungrounded power supply conductors to the heater, and be readily accessible.

(h) Electric hot water supply boilers must have pressure and temperature relieving valves. The valve temperature setting must not be more than 99 °C (210 °F). The pressure relief setting must not be higher than the marked working pressure of the boiler. The pressure and temperature relief valves must meet part 53, subpart 53.05 of this chapter. The pressure and temperature relief valves may be combined into a pressure-temperature relief valve.

(i) Electric hot water supply boilers must be marked in a visible location with the manufacturer's name, model or other identification number, water capacity, and the electrical ratings of each heating element. When two or more heating elements are installed, the maximum wattage or current consumption must be indicated. The cold water inlet and the hot water outlet must each be clearly distinguished or marked for identification purposes.

(j) All electric hot water supply boilers must have their pressure relief devices tested as required by part 52 or part 53 of this chapter, as applicable. Electric hot water supply boilers which meet the requirements of ANSI/UL 174 or ANSI/UL 1453 and have heating elements, temperature regulating controls, and temperature limiting controls are satisfactory for installation and service without further installation testing. All electric hot water supply boilers not meeting the requirements of ANSI/UL 174 or ANSI/UL 1453 must have their heating elements, temperature regulating controls, and temperature limiting controls tested by the marine inspector at the time of installation.

[CGD 88-057, 55 FR 24238, June 15, 1990, as amended by CGD 95-028, 62 FR 51202, Sept. 30, 1997]

§ 63.25-5 Fired thermal fluid heaters.

(a) *Construction.* Fired thermal fluid heaters must meet the requirements of part 52 of this chapter, as applicable.

(b) *Controls.* Fired thermal fluid heaters must have a low fluid level cutout device or a low flow device. When the rate of fluid flow through the heating coils is insufficient to ensure proper heat transfer, the device must cut off the fuel supply to the burner. If the fluid temperature exceeds the designed